

Abstract

A group III nitride underlayer including at least Al, having a dislocation density of $\leq 1 \times 10^{11}/\text{cm}^2$ and a (002) plane X-ray rocking curve half-width value of ≤ 200 seconds is formed on a set base material. A p-type semiconductor layer group is formed above the group III nitride underlayer and includes a group III nitride in which the Ga content relative to the total group III elements is $\geq 50\%$ and in which a carrier density is $\geq 1 \times 10^{16}/\text{cm}^3$. A light-emitting layer is formed on the p-type semiconductor layer group and includes plural mutually isolated insular crystals. An n-type semiconductor layer group is formed on the light-emitting layer and includes a Ga content relative to the total group III elements of $\geq 50\%$.